

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-9 (canceled)

Claim 10 (currently amended): A method of creating layout objects displayed on a display device, the layout objects representing swing-joint intersections between sections of piping, the method comprising:

- selecting at least two pipe layout objects for swing joint interconnection;
- retrieving layout object data representing the selected at least two pipe layout objects;
- retrieving design reference data representing a maximum jog-over distance;
- selecting a first one of the at least two pipe layout objects, wherein the selected first pipe layout object has at least one non-terminated end;
- calculating a swing-distance between the selected first pipe layout object and each of the non-selected pipe layout objects;
- comparing each calculated swing-distance to the maximum jog-over distance to determine a group of target pipe layout objects;
- selecting one of the target pipe layout objects from the group of target pipe layout objects;
- generating at least one swing joint layout object interconnecting the selected first pipe layout object and the selected target pipe layout object.

Claim 11 (previously presented): A method as defined in claim 10, further comprising storing layout object data representing the swing joint layout object.

Claim 12 (previously presented): A method as defined in claim 10, further comprising displaying image data representing the selected at least two pipe layout objects and the swing-joint layout object.

Claim 13 (previously presented): A method as defined in claim 10, wherein the layout object data further includes functional data representing a layout objects function.

Claim 14 (previously presented): A method as defined in claim 10, wherein selecting one of the target pipe layout objects further comprises rotating the selected one of the target pipe layout objects 180° so that its orientation is conducive to installation of a swing-joint.

Claim 15 (previously presented): A method as defined in claim 10, further comprising consolidating the selected at least two pipe layout objects and the generated at least one swing-joint layout object.

Claim 16 (previously presented): An apparatus for creating swing joint layout objects displayed on a display device, the apparatus comprising:

- a memory for storing layout object data representing at least two pipe layout objects;
- an input device for specifying a maximum jog-over distance;
- a processor for executing machine readable instructions, wherein the instructions cause the processor to
 - retrieve layout object data from a storage,
 - select a first one of the at least two pipe layout objects, wherein the selected first pipe layout object has at least one non-terminated end,
 - calculate a swing-distance between the selected first pipe layout object and each of the non-selected pipe layout objects,
 - compare each calculated swing-distance to the maximum jog-over distance to determine a group of target pipe layout objects,
 - select one of the target pipe layout objects from the group of target pipe layout objects,
 - and

generate at least one swing joint layout object interconnecting the selected first pipe layout object and the selected target pipe layout object; and

a display device for displaying image data representing the selected first pipe layout object and the selected target pipe layout object.

Claim 17 (currently amended): An apparatus according to claim ~~17~~16, wherein the instructions further cause the processor to select one of the target pipe layout objects by rotating the selected one of the target pipe layout objects 180° so that its orientation is conducive to installation of a swing-joint.

Claim 18 (previously presented): An apparatus according to claim 17, wherein the instructions further cause the processor to consolidate the selected at least two pipe layout objects and the generated at least one swing joint layout object.